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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/523,350	03/10/2000	Hiroiyuki Kino	36856.283	5246

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EXAMINER
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KIM, PAUL D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 11/17/2003

29

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/523,350

Applicant(s)

KINO ET AL.

Examiner

Paul D Kim

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,6,8,10-16,18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,8,10-16,18 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This office action is a response to the amendment filed on 10/28/2003.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/28/2003 has been entered.

#### ***Claim Objections***

3. Claims 1, 2, 5, 6, 8, 10-16, 18 and 20 are objected to because of the following informalities:

Re. Claim 1: The phrase "the axis of the through holes" recited in lines 5-6 needs to be changed as --axes of the through holes--.

The phrase "axes of the through holes" recited in line 10 also needs to be changed as --the axes of the through holes--.

It is confused that whether the flattened-ring compact bodies recited in line 11 are the same flattened-ring compact bodies recited in line 3 or stacked as recited in lines 9-10 such as attaching vertically.

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Also, it is confused that whether the adjacent flattened-ring compact bodies recited in lines 12 indicate the same arranged flattened-ring compact bodies recited in lines 5-6 or stacked as recited in lines 9-10 such as attaching vertically. The phrase "the adjacently arranged plurality of flattened-ring compact bodies" recited in lines 14-15 raises the same question. Clarification is required.

Re. Claim 5: Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 3 has been cancelled. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Re. Claim 6: Claim 6 is objected to as being a substantial duplicate limitation of claim 1. Claim 1 and claim 6 are essentially duplicates of one another or else are so close in content that they both cover the same thing, despite a slight difference in wording. It is improper to have two claims, which contain the same limitations, in the same application as one claim would be a substantial duplicate of the other claim.

Re. Claims 8 and 10: The phrase "an organic material" recited in line 2 needs to be changed as --the organic material--.

Re. Claim 11: It is confused that whether the thin compact bodies recited in line 9 indicate the same thin compact bodies recited in line 3 or the stacked thin compact bodies as recited in line 8 such as attaching vertically. Also, it is confused that whether the adjacent thin compact bodies recited in lines 9-10 indicate the same arranged flattened-ring compact bodies recited in lines 5 or stacked as recited in lines 6-7 such as

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attaching vertically. The phrase "the adjacently arranged plurality of thin compact bodies" recited in lines 12-13 raises the same question. Clarification is required.

Re. Claim 14: It is confused that whether the phrase "after the step of attaching" recited in lines 1-2 indicates after attaching the powder or after vertically attaching. If the phrase "after the step of attaching" recited in lines 1-2 indicates after attaching the powder, examiner suggests inserting a phrase --the powder-- for clarifying the limitation.

Re. Claim 15: The phrase "a vertical stacking direction" recited in lines 2-3 needs to be changed as --the vertical stacking direction--.

After the phrase "so that" in line 3, insert --the--.

Re. Claim 16: It is confused that whether the phrase "the plurality of flattened-ring compact bodies" recited in lines 1-2 indicates the same plurality of thin compact bodies recited in line 3 of claim 11 or not.

The limitations recited in lines 2-3 are so related as to constitute a proper **Markush group**. They may be recited in the conventional manner, or alternatively. For example, "wherein the plurality of thin compact bodies are a selected from the group consisting of a ring-shape, an E-shape, An I-shape, a rectangular shape and a square shape" is a proper limitation. (see MPEP 2173.05(h)).

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 6, 8, 10-14, 16, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art in view of Matsymoto et al. (JP 03005377 A) and Yasuda et al. (JP-4367569 A).

Fig. 5 of Applicant Admitted Prior Art teaches a method of manufacturing a flattened-ring magnetic core comprising steps of: providing a plurality of flattened-ring compact bodies (21) made of a magnetic material having holes (22); arranging the plurality of flattened-ring compact bodies that axes of the flattened-ring compact bodies is arranged in horizontally; and firing the flattened-ring compact bodies (lines 16-26 of page 1 in specification).

As per claim 2 the arranged plurality of flattened-ring compact bodies are arranged in a plurality of rows as shown in Fig. 5.

However, Applicant Admitted Prior Art does not disclose a step of attaching the plurality of flattened-ring compact bodies to one another vertically. Matsymoto et al. teach a method of making a piezoelectric ceramic formed body including steps of attaching a plurality of ceramic bodies (4) vertically arranged in a vessel (5) as shown in Fig. 5 and forming  $\text{ZrO}_2$  powder (3) in between the ceramic bodies (see Constitution) for preventing bond-sticking during a sintering process. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a flattened-ring compact bodies of Applicant Admitted Prior Art by attaching a plurality of ceramic bodies vertically arranged with a powder in between as taught by

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Matsymoto et al. for the purpose of preventing sticking ceramic bodies during a sintering process to improve production efficiency.

Also, Applicant Admitted Prior Art, modified by Matsymoto et al., does not disclose a step of attaching a power made of an organic to a surface of the flattened-ring compact bodies and vaporized during the firing step. Yasuda teaches a process of making an inserting sheet for firing ceramic comprising steps of inserting sheet for interposing upon firing ceramic mouldings comprises a base sheet formed from shaped inorganic powder (2) with an organic powder binder (3) and firing the ceramic mouldings with the interposing sheet and the organic powder is vaporized for preventing bond-sticking during the firing step and enabling recovering of fired mouldings separately. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a flattened-ring compact bodies of Applicant Admitted Prior Art, modified by Matsymoto et al., by attaching an organic powder on the surface of the composite structure as taught by Yasuda for the purpose of preventing bond-sticking during the firing step and enabling recovering of fired mouldings separately.

Even though Applicant Admitted Prior Art, modified by Matsymoto et al., does not disclose the compact bodies' shape and the particle size in the organic powder as recited in claims 8, 10, 16, 18 and 20, however, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to apply the compact bodies' shape and the particle size in the organic powder as recited in the claimed invention because Applicant has not disclosed that the compact

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bodies' shape and the particle size in the organic powder as recited in the claimed invention provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with Applicant Admitted Prior Art, modified by Matsymoto et al., because the compact bodies' shape and the particle size in the organic powder as recited in the claimed invention would perform equally well in Applicant Admitted Prior Art, modified by Matsymoto et al. Therefore, it would have been an obvious matter of design choice to modify the compact bodies' shape and the particle size in the organic powder of Applicant Admitted Prior Art, modified by Matsymoto et al., to obtain the invention as specified in claims 8, 10, 16, 18 and 20.

6. Claims 5 and 15 are, as best understood based on the objection as set forth above, rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art in view of Matsymoto et al. and Yasuda, and further in view of Shirahata (US PAT. 6,005,468).

Applicant Admitted Prior Art, modified by Matsymoto et al. and Yasuda, teaches all the claimed inventions except of a bar attached each of a pair of sides of the stacked flattened-ring compact bodies. Fig. 16 (a) of Shirahata shows a bar (64) attached each side of flattened-ring compact bodies (2A,2B,2C) for holding the compact bodies. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a flattened-ring compact bodies of Applicant Admitted Prior Art, modified by Matsymoto et al. and Yasuda, by attaching a bar to the flattened-ring compact bodies as taught by Shirahata for the purpose of maintaining a



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stable condition of the flattened-ring compact bodies to prevent falling off during the manufacturing process.

### ***Response to Arguments***

7. Applicant's arguments filed 10/28/2003 have been fully considered but they are not persuasive. Applicant argues that the prior art of record fails to disclose the claimed invention such as arranging the compact bodies so that axes of the through holes are arranged horizontally. Examiner traverses the argument that axes of through holes of the compact bodies as shown in Fig. 5 of Applicant Admitted Prior Art seem to be arranged horizontally. Also, even though applicant's modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art. More particularly, where the general conditions of claims are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In this instance applicant has failed to establish arranging horizontally axes of the through holes of the compact bodies as claimed are critical from the prior art.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D Kim whose telephone number is 703-308-8356. The examiner can normally be reached on Tuesday-Friday between 8:00 AM to 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5648.



Paul D. Kim  
Examiner  
Art Unit 3729